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ABSTRACT

This report evaluated the reading and language program in one elementary school which was intended to improve word knowledge, word analysis, and reading comprehension skills for 300 students in grades K through 5. Students who participated in the program were below grade level in reading and language skills. Educational Assistants were assigned to participating classes and provided small group instruction in reading and one hour of individualized instruction in the afternoon. The evaluation of the program assessed the students' reading grade level measured by the Stanford Achievement Test at the end of the program, language ability measured by the Stanford Achievement Test of Auditory Comprehension on a pre-and post-basis, and English fluency measured by the Annual Survey of Pupils Ability to Speak English. Educational Assistants were evaluated by structured interview guides regarding training, materials, assignments, and responsibilities. The report concluded that significant reading improvement on or above grade level at the end of the program was attained. The actual post-test mean language score increased significantly over anticipated post-test scores and the program's English-as-a-second-language students improved their ability to speak English by greater than one grade level.

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READING AND LANGUAGE

SCHOOL YEAR 1975-1976

Bernard Cusano, M.A.

An Evaluation of Selected New York City Umbrella Programs
funded under a Special Grant of the New York State
Legislature performed for the Board of Education of
the City of New York for the 1975-1976 school year

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PROGRAM DESCRIPTION

The Reading and Language Program at P.S. 155 was designed to provide reading and language instruction for three-hundred (300) students in grades K through five (5). In order to accomplish this, educational assistants were placed in classes that participated in the program. Classes where the majority of students were below grade level in reading and language skills were selected for participation.

Participating P.S. 155 students live in a community where 92% of parents of school children receive public assistance. P.S. 155 students have been described as having low reading scores. In 1975, scores based on the results of the New York City Reading Test show the following percentage of children below grade level:

73%	5th grade
82%	4th grade
71%	3rd grade
46%	2nd grade

In order to improve the reading and language performance of those students most in need of instruction, educational assistants were assigned to participating classes, students participated in a variety of supplementary reading and language instructional activities, and students were provided with direct small group instruction in reading and one hour of individualized instruction each afternoon. The reading instruction was designed to improve word knowledge, word analysis, and reading comprehension skills.

To improve language skills, students were provided with small group instruction, large group instruction, and individualized instruction. These activities were designed to improve the childrens' listening, speaking and writing abilities. To these specific ends, children were engaged in activities, such as, story retelling, discussion, poetry recitation, singing, rhyming, sentence composing, and other similarly oriented activities.

Selection of Participants

Educational assistants were placed in those classes (kindergarten through 5th grade) where the majority of the students are below grade level in reading and language skills.

Staff

Eight educational assistants were assigned to the Reading and Language Program. Each of the assistants worked with a classroom teacher and received direct supervision and guidance from the classroom teacher. Activities of the educational assistant included small group instruction, working with individual children, assisting with diagnostic testing, participating in the preparation of instructional materials, participating in classroom planning and assisting in other classroom related instructional activities as needed. The total program was coordinated by the school principal.

EVALUATION PROCEDURES

The evaluation design specified four evaluation objectives. Each objective is stated below and is followed by evaluation procedures.

Evaluation Objective #1

To determine whether, as a result of participation in the Reading and Language Program, the percentage of those students reading on grade level as measured by the Stanford Achievement Test at the end of the program increased significantly as compared with the percentage of students reading on grade level at the start of the program.

Subjects: All students participating in the program and having attended 70% of the scheduled sessions.

Methods: Alternate forms of the Stanford Achievement Test were administered in December, 1975 (pre-test, form A) and in May, 1976 (post-test form B).

Analysis of date: Chi Square test of statistical significance was applied.

Evaluation Objectives # 2

To determine whether pupil participants attending 70% or more of the program sessions will demonstrate a significant achievement beyond expectation in language ability as measured by the Stanford Achievement Test of Auditory Comprehension on a pre-post test basis.

Subjects: All participants who have attended 70% of scheduled program sessions.

Method and Procedures:

The Stanford Achievement Test of Auditory Comprehension will be administered twice: during the first week of the program, and again during the last week of the program.

Analysis of Data:

Data was analyzed by the "Real (treatment) Post-test vs. Anticipated (without treatment) Post-test".

Evaluation Objective #3

To determine if pupil participants attending 70% or more of the program sessions will improve in their ability to speak English by one level, as measured by a mean comparison of pre-post administration of the Annual Survey of Pupils Ability to Speak English.

Methods: The Annual Survey of Pupils Ability to speak English was administered on a pre-post program basis to determine if pupil participants improved in their ability to speak English by one level. Students who scored at the highest level at pre-test administration were excluded.

Analysis: Pre- and post program means were compared.

Evaluation Objective #4

To determine the extent to which the program, as actually carried out, coincided with the program as described in the project proposal.

Methods and Procedures: Interviews of project coordinator, and participating educational assistants. Structured observation guides were utilized in classroom observation.

Analysis of Data: Interview responses and classroom observations were tabulated and analyzed. Results are presented in tabular and narrative form.

FINDINGS

Objective #1

To determine whether, as a result of participation in the Reading and Language Program, the percentage of those students reading on grade level as measured by the Stanford Achievement Test at the end of the program increased significantly as compared with the percentage of students reading on grade level at the start of the program.

Results

The percentage of program students, K through 5, reading on grade level (reading comprehension subtest) at the beginning of the program and the percentage at the end of the program are presented and compared in TABLE I that follows. The level of significance for the total group arrived at through the Chi Square Analysis of percentage is also found in TABLE I. An inspection of the data contained in the table shows that at the start of the program 24.7% of the students attained reading comprehension scores at or above grade level. At the post-testing 56.8% of the program student attained grade level scores. A statistical analysis reveals that the percentage gain is significant at the .01 level of significance. Objective # 1 was met.

A further examination of the table indicates that grade K had a considerably greater percentage of students at grade level at the program outset. Grades K,1, and 2 have relatively high percentages of students at grade level or above at the time of post-testing. Grades 3, 4, and 5 had a relatively small percentage of students at or above grade level at the time of pre-testing and at the time of post-testing.

TABLE I

PRE- AND POST-PROGRAM PERCENTAGES OF PROGRAM STUDENTS WHO SCORED AT OR ABOVE GRADE LEVEL AS MEASURED BY THE STANFORD ACHIEVEMENT READING TEST (COP. SUBTEST)

Grade	N	PRE-TEST		POST-TEST		Chi Square	Level of Sig.
		at or above grade level	below grade level	at or above grade level	below grade level		
K	107	42.1%	57.9%	70.1%	29.9%		
1	20	5.0%	95.0%	60.0%	40.0%		
2	22	4.5%	95.5%	77.3%	22.7%		
3	20	0.0%	100.0%	10.0%	90.0%		
4	11	0.0%	100.0%	9.1%	90.9%		
5	10	0.0%	100.0%	10.0%	90.0%		
K-5	190	24.7%	75.3%	56.8%	43.2%	75.01	.01

In TABLE II below, we have a comparison of reading comprehension scores of program students in K, through 2, compared with the scores of students in grade 3 through 5.

TABLE - II

PRE- AND POST-PROGRAM PERCENTAGES BY GRADE CLUSTERS (K,1,2, vs 3,4,5) OF PROGRAM STUDENTS WHO SCORED AT OR ABOVE GRADE LEVEL AS MEASURED BY THE STANFORD ACHIEVEMENT TEST (COP. SUBTEST)

Grade	N	PRE - TEST		POST - TEST	
		At or above grade level	Below grade level	At or above grade level	Below grade level
K,1 & 2	149	31.5%	68.5%	69.8%	30.7%
3,4,& 5	41	0%	100%	9.8%	90.2%

The above data indicates that relatively fewer upper gradelevel students (grades 3,4,5,) were at grade level at the program's outset and fewer (9.8%) advanced to grade level after having been exposed to the program's activities. Over 37% of the lower grade students advanced to a point where they were at or above grade level at the time of post testing.

Objective # 2

To determine whether pupil participants attending 70% or more of the program sessions will demonstrate a significant achievement beyond expectation in language ability as measured by the Standard Achievement Test of Auditory* Comprehension on a pre-post program test basis.

TABLE III that follows presents the mean pre-test, predicted, and post-test scores for students in grades 2, 3, and 4. The mean gain attained beyond predicted scores for the total group (3.23 - 2.58, .65) was significant at the .01 level. This indicates that the objective was met for that portion of the target students covered by TABLE III.

The breakdown by grade level in TABLE III reveals that the mean gain made in grade 3 was not as substantial as that made in grades 2 and 4. The mean gain achieved in grade 3 was not significant.

*Scores at levels 2,3, and 4, were taken from SAT Listening Comprehension sub-test. Scores at levels A,1 were taken from Aural comprehension sub-test.

TABLE III

MEAN PRE- PREDICTED AND POST- SAT LISTENING GRADE EQUIVALENT MEAN
SCORES BY GRADE AND TOTAL (Grades 2,3,4)

GRADE	N	PRE TEST	PREDICT	POST TEST	T VALUE	LEVEL AT SIGNIFICANCE
2	25	1.30	1.54	2.50	9.4436	.01
3	20	2.05	2.36	2.83	1.8817	NS
4	15	2.55	2.83	3.67	3.4842	.01
(2,3,4)	60	2.33	2.58	3.23	6.3664	.01

TABLE IV that follows presents pre-test, predicted and post-test percentages of Kindergarten and first grade students who scored at or above the 50th percentile on the Aural Comprehension sub-test of the Standard Early School Achievement Test, Levels I and II, Chi Square values and significance levels are also presented.

An examination of the significance levels at each of the two grade levels and of the total group indicate that they are significant at the .01 level. Increases in percentage of students who performed at or above the 50th percentile indicate that this portion of the program students have met objective # 2.

The significance levels reported in TABLES III and IV indicate that objective # 2 has been met.

TABLE IV
PERCENTAGES OF STUDENTS (KINDERGARTEN AND FIRST GRADE) SCORING
AT OR ABOVE THE 50th PERCENTILE ON THE SAT AURAL COMPREHENSION
SUBTEST (LEVELS I AND II)

Grade	Number	Pre-test		Post-test		Chi Square Value	Significance Level
		At 50th or above	Below 50th	At 50th or above	Below 50th		
K	89	19.1 %	80.9 %	55.1 %	44.9 %	53.34	.01
1	18	5.6 %	94.4 %	50.0 %	50.0 %	52.85	.01
Total	107	15.8 %	84.2 %	54.3 %	45.7 %	90.01	.01

Objective #3

To determine if pupil participants attending 70% or more of the program sessions will improve in their ability to speak English by one level, as measured by a mean comparison of pre- and post- administration of the Annual Survey of Pupils ability to Speak English.

TABLE V below presents the results of the pre/post administration of the Annual Survey of Pupils Ability to Speak English. Mean pre- and post-test levels are presented in the subtest areas of the Survey. The areas include: Vocabulary Usage, Structural Patterns, and Pronunciation Intonations. A mean of the average of the above three subtests is also presented.

An examination of the data found in TABLE V indicates that mean gains in each of the subtest categories for the total group are greater than one level. Thus Objective #3 was realized.

An examination of the gains of the total group in each of the three subtest areas will reveal that solid gains were made in each. In vocabulary, the total group attained a mean gain of 2.6 levels, in Structural Patterns the total group attained a mean gain of 2.8 levels, and in Pronunciation Intonation the total group attained a mean gain of 1.4 levels.

TABLE V

PRE AND POST MEAN SCORES FOR PROGRAM STUDENTS (K THROUGH 5) AS MEASURED
BY THE ANNUAL SURVEY OF PUPILS ABILITY TO SPEAK ENGLISH

	N	(levels) VOCABULARY		(levels) STUCTURAL PATTERNS		(levels) PRONUNCIATION INTONATIONS		AVERAGE	
		PRE	POST	PRE	POST	PRE	POST	PRE	POST
K	29	3.6	6.6	3.5	6.6	2.1	3.8	3.1	5.4
1	1	.3	.6	3	6	2	4	2.3	5.3
2	3	8.3	10.0	8.3	10.0	4.3	5	7.0	8.3
3	0	--	--	--	--	--	--	--	--
4	1	8	10	7	10	4	5	6.3	8.3
5	4	7.5	8.3	7.0	8.0	3.5	3.8	6.0	6.7
K-5	38	4.5	7.1	4.3	7.1	2.5	3.9	3.8	5.8

Educational Assistants Interviews

Using structured interview guides, the evaluator interviewed eight (8) educational assistants. Interview responses yielded data regarding training, materials, educational assistants' assignments and responsibilities, teamwork among teachers and educational assistants, program strengths, and program recommendations.

Educational assistants' responses indicated that no formal training had been provided to the assistants up to the time of the interview (April 1976).

Educational assistants did report that they had received informal training, guidance, and supervision from classroom teachers. When asked "What types of training would be most helpful", the more frequently repeated responses included: teaching reading lessons to small groups, identifying "slow learners" and "problem children", use of instructional materials, and assessing student progress. When asked what specific kinds of materials would help to improve the quality of instruction, repeated responses included: workbooks (reading and language) in sufficient supply so that each student might have his own, more educational games, additional reading instructional materials, audio-visual materials, and, at lower levels (K-1), more tracing materials.

Interviewee responses relating to educational assistant work assignments indicated that the more prevalent assignments included: working with small groups, monitoring academic activities, and working with students on an individual basis.

TABLE VI summarizes responses to the question: How often does the classroom teacher assign you to the following duties?

TABLE VI

SUMMERIZED TALLY OF EDUCATIONAL ASSISTANTS' RESPONSES TO QUESTION
CONCERNING ASSIGNMENT TO VARIED JOB DUTIES

	<u>Never</u>	<u>Rarely</u>	<u>Sometimes</u>	<u>Frequently</u>	<u>Most of Time</u>
Preparing materials			3	2	2
Monitoring assignments				6	1
Working with small groups				6	1
Working with students on an individual basis			3	3	1
Clerical duties	1	6			
Monitoring non-academic activities	6	1			

Program strengths which enabled Reading and Language Program students to achieve gains were, according to educational assistant interviewees, provision of individual attention, small group instruction, and the lowering of the student adult ratio in the classroom.

Recommendations generated by educational assistant interviews included: additional instructional materials, training in addition to that which is provided by the classroom teacher, and classroom supplies (paper, crayons, etc.).

Classroom Observations

Using structured classroom observation guides, the evaluator observed eight (8) class sessions (k through 5). The observations yielded data relating to: enrollment, adult-student ratio in the classrooms, classroom organization, adequacy of facilities, classroom atmosphere, instructional ef-

fectiveness, utilization of instructional materials, student responses to instruction and instructional materials, and the role of the educational assistant.

An average of twenty-three (23) students were present in the eight (8) observed sessions. The range of attendance in observed sessions was from twenty-one (21) to thirty-one (31). One teacher and one educational assistant were pre-present in each observed classroom. During observations, most classrooms were subgrouped into a small group of students instructed by the educational assistant, and a larger group instructed by the classroom teacher. In the latter case either whole class or individualized instructional approaches were employed. The physical facilities where each of the sessions took place were adequate.

The observed teamwork was ranked as being "above average" by the evaluator. The teacher/educational assistant working relationship appeared compatible, gave evidence of pre-planning, and reflected an attitude of cooperation.

The lesson content of observed sessions included: word recognition lessons, oral reading activities, language instruction, and discussions designed to heighten the children's interest in reading and language. Among the instructional materials observed in use were: Scott Foresman reading texts, workbooks, visual charts; Spanish/English reading materials, letter identification and picture cards, and pegboards. A summary of student interest and participation in instructional activities as rated by the evaluator on a five point rating scale is presented in TABLE VII below.

TABLE VII

SUMMARY OF EVALUATOR RATINGS OF STUDENT INTEREST AND PARTICIPATION
IN INSTRUCTIONAL ACTIVITIES

	Very Poor	Poor	Good	Very Good	Excellent
Level of student interest in activities	0	1	4	2	1
Level of student participation	0	1	4	2	1
behavior of students observed	0	1	3	3	1
Degree of student comprehension of lesson (apparent)	0	1	4	2	1

The observed duties and responsibilities of educational assistants confirmed data gathered during educational assistant interviews. During observed classroom sessions, educational assistants were found to be engaged in providing small group instruction, supervising academic activities, and helping students on an individual basis.

SUMMARY AND RECOMMENDATIONS

Summary

The percentage of students reading on or above grade level at the end of the program increased significantly as compared with the percentage of students reading on or above grade level at the start of the program. Thus, Objective #1 was realized. With respect to Objective #2, the actual post-test mean language (listening and aural comprehension) score of program students increased significantly over the anticipated post-test score. Objective #2 was also realized. The program's English as a second language students were found to have improved their ability to speak English by greater than one level as measured by a pre-post administration of the Annual Survey of Pupils Ability to Speak English. Consequently, it can be stated that Objective #3 was realized. Finally, the program description and the data generated by interview and classroom observations indicated that the program procedures, organization, instructional emphasis, and staff utilization were implemented in a manner consistent with the program's intent and description.

Recommendations

The Reading and Language Program has realized each of its stated objectives while helping a needy target population to gain skills in reading and language. These contributions support the notion that the program is needed and useful. It is recommended that the program be continued.

In the judgement of the evaluator the effectiveness of the educational assistants would be improved if they were to receive coordinated training designed to improve their skills in the following areas: small group instruction, lesson planning, identification of specific skill deficiencies, assess-

ing student progress, and understanding reading and language skill sequences. It is recommended that training in the above areas be provided to the educational assistants.

Additionally, it is recommended that a full time training coordinator be included in the staff of the Reading Language Program. Among the responsibilities of the coordinator would be included: training of educational assistants, coordination of activities of educational assistants, selection of necessary instructional materials, training classroom teachers and educational assistants in the use of new materials, articulation of the program's goals and strategies to classroom teachers, and supervision of the program's operational details under the broader supervision and direction of the school principal.